



ISSUE 10; March 2012 - RoHS 2011/65/EU

Description

- Industry standard SMD crystal
- Plastic encapsulated
- Low profile version also available please contact our sales offices for details

Frequency Range

- Frequency 3.5795 to 90.0Mhz
- Frequency Tolerance $\pm 10\text{ppm}$ to $\pm 100\text{ppm}$

General Specification

- Load Capacitance (CL) 10.0pF to 50.0pF or Series
- Drive Level 100 μ W max
- Ageing $\pm 5\text{ppm}$ max per year at 25°C
- Shunt Capacitance (C0) 5pF max

Operating Temperature Ranges

- 0 to 50°C
- -10 to 60°C
- -20 to 70°C
- -40 to 85°C

Environmental Parameters

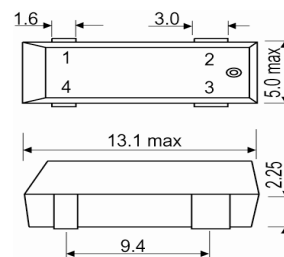
- Drop: 75cm drop (3 times) onto hard wooden board
- Storage Temperature Range: -40 to 90°C
- Vibration: 1.5mm amplitude, 10Hz-55Hz, 1min in 3 mutually perpendicular planes, duration 2hrs each plane

Ordering Information

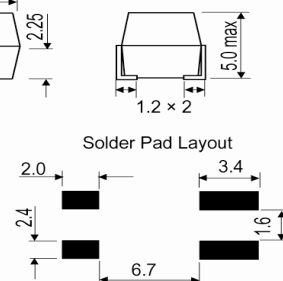
- Example:
10.0MHz 86SMX
50/50/-40 to 85C/10 FUND
- Frequency*
Model*
Frequency Tolerance (@25°C)*
Frequency Stability (over operating temperature range)*
Operating Temperature Range*
Load Capacitance*
Overtone*

Packing Details

- Pack Style: **Bulk** Loose in bulk pack
Pack Size 100
- Pack Style: **Reel** Tape & reel in accordance with EIA-481-D
Pack Size 1,000
- Alternative packing options available

**Outline (mm)**

Pad Connections
1. Crystal
2. N/C
3. N/C
4. Crystal

**Sales Office Contact Details:**

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Electrical Specification - maximum limiting values

Frequency Range	Frequency Tolerance	Stability		Temperature Range	ESR Max	Vibration Mode
		Min	Max			
3.6 to <4.0MHz	±10ppm to ±100ppm	±10ppm ±20ppm ±30ppm ±50ppm	±150ppm	0 to 50°C -10 to 60°C -20 to 70°C -40 to 85°C	200Ω	Fundamental
4.0 to <4.5MHz	±10ppm to ±100ppm	±10ppm ±20ppm ±30ppm ±50ppm	±150ppm	0 to 50°C -10 to 60°C -20 to 70°C -40 to 85°C	150Ω	Fundamental
4.5 to <5.0MHz	±10ppm to ±100ppm	±10ppm ±20ppm ±30ppm ±50ppm	±150ppm	0 to 50°C -10 to 60°C -20 to 70°C -40 to 85°C	120Ω	Fundamental
5.0 to <6.0MHz	±10ppm to ±100ppm	±10ppm ±20ppm ±30ppm ±50ppm	±150ppm	0 to 50°C -10 to 60°C -20 to 70°C -40 to 85°C	100Ω	Fundamental
6.0 to <9.0MHz	±10ppm to ±100ppm	±10ppm ±20ppm ±30ppm ±50ppm	±150ppm	0 to 50°C -10 to 60°C -20 to 70°C -40 to 85°C	80Ω	Fundamental
9.0 to <10.0MHz	±10ppm to ±100ppm	±10ppm ±20ppm ±30ppm ±50ppm	±150ppm	0 to 50°C -10 to 60°C -20 to 70°C -40 to 85°C	60Ω	Fundamental
10.0 to <13.0MHz	±10ppm to ±100ppm	±10ppm ±20ppm ±30ppm ±50ppm	±150ppm	0 to 50°C -10 to 60°C -20 to 70°C -40 to 85°C	50Ω	Fundamental
13.0 to <19.0MHz	±10ppm to ±100ppm	±10ppm ±20ppm ±30ppm ±50ppm	±150ppm	0 to 50°C -10 to 60°C -20 to 70°C -40 to 85°C	35Ω	Fundamental
19.0 to <40.0MHz	±10ppm to ±100ppm	±10ppm ±20ppm ±30ppm ±50ppm	±150ppm	0 to 50°C -10 to 60°C -20 to 70°C -40 to 85°C	25Ω	Fundamental
30.0 to <35.0MHz	±10ppm to ±100ppm	±10ppm ±20ppm ±30ppm ±50ppm	±150ppm	0 to 50°C -10 to 60°C -20 to 70°C -40 to 85°C	80Ω	3RD Overtone
35.0 to <40.0MHz	±10ppm to ±100ppm	±10ppm ±20ppm ±30ppm ±50ppm	±150ppm	0 to 50°C -10 to 60°C -20 to 70°C -40 to 85°C	70Ω	3RD Overtone
40.0 to <45.0MHz	±10ppm to ±100ppm	±10ppm ±20ppm ±30ppm ±50ppm	±150ppm	0 to 50°C -10 to 60°C -20 to 70°C -40 to 85°C	65Ω	3RD Overtone
45.0 to <50.0MHz	±10ppm to ±100ppm	±10ppm	±150ppm	0 to 50°C	60Ω	3RD Overtone

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**Electrical Specification - maximum limiting values**

Frequency Range	Frequency Tolerance	Stability		Temperature Range	ESR Max	Vibration Mode
		Min	Max			
		±20ppm ±30ppm ±50ppm		-10 to 60°C -20 to 70°C -40 to 85°C		
50.0 to <90.0MHz	±10ppm to ±100ppm	±10ppm ±20ppm ±30ppm ±50ppm	±150ppm	0 to 50°C -10 to 60°C -20 to 70°C -40 to 85°C	80Ω	3RD Overtone

This document was correct at the time of printing; please contact your local sales office for the latest version

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